Capt Lefstad/jm

[redacted]

VWZD Official Cy

CLASSIFICATION CHANGED TO [redacted] BY AUTH OF [redacted] EFF 20 Apr 1966

DOD DIR 5200.10

DOWNGRADED AT 3 YEAR INTERVALS; DECLASSIFIED AFTER 12 YEARS

INFO: 1 MEBELS DEV VANDENBERG AFB CALIF /COURIER/ ZEM

6565TEST WG VANDENBERG AFB CALIF /COURIER/ ZEM

6565TEST WG PATRICK AFB FLORIDA

SECRET FROM VWZD-19-4-66-S

LOSA FOR SELD SEMCLN 6594 TW FOR COL MOORE SEMCLN LMED/ SUNNYVALE FOR TWECA-2 /M.J. DEERFIELD/ SEMCLN LMED/VAFB FOR DEPT 65-44 SEMCLN DAC/VAFB FOR MR. SHERMAN. INFO CLN 1 MD FOR COMMAND POST AND DCOSS SEMCLN 6565 TW FOR VWZE/

Cy # 7 8 sep

19 JUN 61

OFFICE SYMBOL	ORIGINATOR			
NAME (SIGNATURE)	[redacted]			[redacted]
DATE	[redacted]			

LUCIEN A. PERRET, JR., Colonel, USAF

AFBMD Form 4-76
1 Nov 59

COORDINATION SHEET

Replaces AFBMD Form 1-1, 1 Jun 59, which is obsolete

[redacted]

[redacted] AFB CALIF

[redacted] TEST WG FOR EDL WEEKALL. SUBJECT

[redacted] PRELIMINARY LAUNCH SUMMARY /NUMET-

[redacted]. FOLLOWING IS THE 45 WSMR SUMMARY REPORT

[redacted] OF DISCOVERER XXIV /1308 WSMR/AGENA B 1107/.

1. PRELAUNCH OPERATIONS

[redacted] OPERATIONS WERE STARTED AT 0400 PST ON 14

[redacted]. THE FIRST HOLD WAS IMPOSED AT T-15 MINUTES TO

[redacted] WORK THAT HAD BEEN DELAYED EARLIER WHEN IT WAS

NECESSARY TO REPLACE A LEAKING AGENA ACID FILL COUPLING.

DURING THIS HOLD A FAULTY SOLENOID VALVE IN THE ORBITAL

STAGE ENGINE PRESSURIZATION SYSTEM WAS REPLACED ALSO.

DURATION OF THE HOLD WAS 60 MINUTES. THE SECOND HOLD,

WHICH LASTED 5 MINUTES, WAS CALLED AT T-10 MINUTES TO

ALLOW COMPLETION OF ALL OF THE TERMINAL COUNTDOWN PRE-

PARATIONS. TERMINAL COUNTDOWN STARTED AT 1201 PST. THE

THIRD AND FINAL HOLD WAS CALLED AT PHASE II OF THE TERMINAL

COUNTDOWN TO RESOLVE A PROBLEM IN THE THOR NITROGEN

PRESSURIZATION SYSTEM. THIS HOLD WAS FOR 2 MINUTES AFTER

WHICH THE TERMINAL COUNTDOWN PROCEEDED SATISFACTORILY

TO LIFT-OFF AT [redacted] PST.

2. BOOST PHASE

[redacted]

YWZD

[redacted]

[redacted]

[redacted] ARE GALE

A. THE [redacted] FIRST DISCERNIBLE VEHICLE TO BE LAUNCHED FROM [redacted] WHICH IS OF THE GUIDED FLARE-ROCKET CONFIGURATION. AS IN THE EVENTS ASSOCIATED WITH LIFTOFF, THE LARGE [redacted] AND CLEAN-CUT APPEAR TO HAVE [redacted] SATISFACTORILY. THE GROUND GUIDANCE [redacted] OSCILLATIONS BETWEEN T + 99.75 SECONDS AND T + 144.25 SECONDS, AND THE VEHICLE RESPONSE TO THESE OSCILLATIONS APPEARS TO HAVE BEEN PROPER. POSITIVE MAIN ENGINE CUTOFF OCCURRED AT T + 149.10 SECONDS AS COMMANDED BY THE GROUND GUIDANCE SYSTEM, AND IT WAS FOLLOWED BY 7.2 SECONDS OF VEHICLE BODIES SOLO OPERATION. PRELIMINARY CALCULATIONS, BASED ON GUIDANCE SYSTEM DATA, SHOW THAT THE BOOSTER COAST APOGEE ALTITUDE WAS 0.3 N.M. HIGHER THAN THE NOMINAL VALUE AND THE APOGEE VELOCITY WAS 6 FPS LOWER THAN THE NOMINAL VALUE.

B. 20 CPS OSCILLATIONS ARE EVIDENT IN VEHICLE ACCELEROMETER DATA AS HAS BEEN NOTED IN PREVIOUS DISCOVERER FLIGHTS. THE MAXIMUM PEAK-TO-PEAK AMPLITUDE OF THE OSCILLATIONS IN AGENA ACCELEROMETER DATA IS 2.4 G.

3. COAST PHASE

A. THE GROUND GUIDANCE SYSTEM TRANSMITTED AN AGENA [redacted]

[redacted]

VWED

[redacted]

[redacted]

ASCENT VELOCITY GAIN

THAT TO THE CORRECTION OF 7.86 SECONDS AND A VELOCITY-TO-BE-GAINED CORRECTION OF 1.98 SECONDS. THESE CORRECTIONS WERE PROPERLY RECEIVED AND EXECUTED BY THE ORBITAL STAGE VEHICLE.

B. SEPARATION OF THE ORBITAL STAGE FROM THE BOOSTER WAS COMMANDED BY ABORT GUIDANCE AT T + 144.36 SECONDS AND THE SEPARATION WAS SATISFACTORILY ACHIEVED BY T + 147 SECONDS.

4. ORBITAL STAGE BOOST

A. THE AGENA ENGINE FIRED IN A NORMAL MANNER AT T + 215.39 AND OPERATED SATISFACTORILY FOR 348.4 SECONDS, WHERE THRUST AND SPECIFIC IMPULSE APPEAR TO HAVE BEEN AT OR SLIGHTLY ABOVE THE PREDICTED VALUES FOR THESE PARAMETERS. ENGINE SHUTDOWN OCCURRED AT T + 445.79 SECONDS IN RESPONSE TO A COMMAND FROM THE INTEGRATOR. THE INERTIAL VELOCITY GAIN DURING THE ORBITAL STAGE BOOST PERIOD WAS SHOWN BY THE INTEGRATOR DATA TO BE 16,334 FPS.

B. THE AGENA ATTITUDE WAS PROPERLY CONTROLLED DURING THE COAST AND ORBITAL STAGE BOOST PHASES AND ORBITAL GAS EXPENDITURE DURING THESE PERIODS WAS NORMAL. PRESENTLY AVAILABLE RECORDS SHOW THAT THE REC ELECTRICAL

[redacted]

VEHICLE

[redacted]

[redacted]

[redacted]

POWER SUPPLY VOLTAGE DROPPED SEVERAL VOLTS BELOW TOLERANCE DURING THE ORBITAL BOOST PERIOD. THIS LOW VOLTAGE DOES NOT APPEAR TO HAVE AFFECTED SYSTEMS OPERATION. ALL TIMER-CONTROLLED EVENTS DURING THE START OF VEHICLE REORIENTATION AFTER ORBIT INJECTION OCCURRED AT THE DESIRED SEQUENCE AND AT PROPER TIMES.

C. THE VEHICLE WAS SATISFACTORILY INJECTED INTO ORBIT WITH NEAR-NOMINAL CONDITIONS OF POSITION AND VELOCITY.

5. DATA ACQUISITION

THE VANDENBERG STATION RECEIVED THE AGENA TELEMETRY SIGNAL FROM LIFTOFF TO T + 309 SECONDS AND GOOD DATA RECORDS HAVE BEEN PROVIDED FOR THIS PERIOD. THE ACQUISITION RADAR SIGNAL WAS RECEIVED FROM LIFTOFF TO T + [redacted] SECONDS. THE VAFB TRIGHT RADAR ACTIVELY TRACKED THE AGENA RADAR FROM LIFTOFF TO T + 425 SECONDS. SATISFACTORY DIGITAL TRACKING DATA WERE ACQUIRED BETWEEN LIFTOFF AND T + 407 SECONDS.

6. FAD DAMAGE

DAMAGE TO THE FAD'S, FACILITIES AND EQUIPMENT IS CONSIDERED TO BE NORMAL.

SCF 4.

[redacted]

[redacted]

VWZD

[redacted]